

1 What is claimed is:

2 Add A1 } 1. A system for delivering electronic programming to a user,  
3 the system comprising:

4 a printed matter having at least one sensor and a  
5 transmitter for transmitting a coded signal in  
6 response to an actuation of said sensor;  
7 an intelligent controller having associated therewith a  
8 receiver for receiving said coded signal and a  
9 means for accessing programming material; and  
10 a display unit for presenting said programming  
11 material;

12 wherein said user actuates said sensor to cause said  
13 intelligent controller to access said programming  
14 material and said display unit to present said  
15 programming material to said user.

- 16 2. A system as defined in claim 1 wherein said sensor comprises  
17 a touch sensor.  
18 3. A system as defined in claim 1 wherein said sensor comprises  
19 a capacitive touch sensor.  
20 4. A system as defined in claim 1 wherein said sensor comprises  
21 a conductive touch sensor.  
22 5. A system as defined in claim 1 wherein said sensor comprises  
23 a page sensor.  
24 6. A system as defined in claim 1 wherein said printed matter  
25 includes both a page sensor and a touch sensor.

1 7. A system as defined in claim 1 wherein said printed matter  
2 includes a pad having a plurality of touch sensors.

3 8. A system as defined in claim 1 wherein said printed matter  
4 includes a plurality of pads, each having a plurality of  
5 touch sensors.

6 9. A system as defined in claim 1 wherein said intelligent  
7 controller includes a microprocessor.

8 10. A system as defined in claim 1 wherein said intelligent  
9 controller has associated therewith a memory means for  
10 storing programming material.

11 11. A system as defined in claim 10 wherein said memory means  
12 comprises a magnetic disk.

13 12. A system as defined in claim 10 wherein said memory means  
14 comprises a PCMCIA card.

15 13. A system as defined in claim 10 wherein said memory means  
16 comprises a flash RAM.

17 14. A system as defined in claim 10 wherein said memory means  
18 comprises a cache.

19 15. A system as defined in claim 10 wherein said memory means  
20 comprises a CD-ROM.

21 16. A system as defined in claim 10 wherein said memory means is  
22 selected from the group consisting of: a ROM; a WORM disk; a  
23 floppy disk; a multi-layer optical disk; a magneto-optical  
24 disk; an IC card; a magnetic bubble memory; a sequential  
25 access memory; a magnetic tape; a magnetic drum; a magneto-

1 optical drum; a static RAM; and a dynamic RAM.

2 17. A system as defined in claim 1 wherein said intelligent  
3 controller includes a removable memory means.

4 18. A system as defined in claim 17 wherein said printed matter  
5 and said removable memory means are supplied to, or  
6 purchased by, the user as a set.

7 19. A system as defined in claim 1 wherein said means for  
8 accessing programming material operates via a data link.

9 20. A system as defined in claim 19 wherein said data link  
10 comprises a telephone line.

11 21. A system as defined in claim 19 wherein said data link  
12 comprises a computer network.

13 22. A system as defined in claim 19 wherein said data link  
14 comprises an ISDN network.

15 23. A system as defined in claim 19 wherein said data link  
16 comprises an ethernet network.

17 24. A system as defined in claim 19 wherein said data link  
18 comprises a CATV line.

19 25. A system as defined in claim 1 wherein said intelligent  
20 controller has associated therewith a buffer for temporarily  
21 storing the programming material.

22 26. A system as defined in claim 1 wherein said intelligent  
23 controller includes means for decompressing compressed  
24 programming material.

25 27. A system as defined in claim 1 wherein said display unit

1 comprises a video display.

2 28. A system as defined in claim 1 wherein said display unit  
3 comprises an audio transducer.

4 29. A system as defined in claim 1 wherein said display unit  
5 comprises a flat panel display.

6 30. A system as defined in claim 29 wherein said flat panel  
7 display is embedded within said printed matter.

8 31. A system as defined in claim 1 wherein said display unit has  
9 associated therewith a buffer for temporarily storing  
10 programming material.

11 32. A system as defined in claim 1 wherein said display unit has  
12 associated therewith means for decompressing compressed  
13 programming material.

14 33. A system as defined in claim 1 wherein said display unit  
15 comprises a CATV converter, or wireless cable converter, and  
16 a television set coupled thereto.

17 34. A system as defined in claim 1 wherein said display unit  
18 comprises a personal computer.

19 35. A system as defined in claim 34 wherein said personal  
20 computer includes a CD-ROM for storing programming material.

21 36. A system as defined in claim 34 wherein said personal  
22 computer includes means for decompressing compressed  
23 programming material.

24 37. A system as defined in claim 1 wherein said intelligent  
25 controller and said display unit each comprise portions of a

1 personal computer.

2 38. A system as defined in claim 1 wherein said programming  
3 material includes entertainment programming.

4 39. A system as defined in claim 1 wherein said programming  
5 material includes educational programming.

6 40. A system as defined in claim 1 wherein said programming  
7 material supplements information contained in said printed  
8 matter.

9 41. A system as defined in claim 1 wherein said programming  
10 material includes commercial programming.

11 42. A system as defined in claim 1 wherein said programming  
12 material includes promotional programming.

13 43. A system as defined in claim 1 wherein said programming  
14 material includes informational programming.

15 44. A system as defined in claim 1 wherein said transmitter and  
16 receiver communicate via an energy pathway.

17 45. A system as defined in claim 44 wherein said energy pathway  
18 comprises a conductive cable.

19 46. A system as defined in claim 44 wherein said energy pathway  
20 comprises an optical cable.

21 47. A system as defined in claim 44 wherein said energy pathway  
22 comprises a capacitively coupled link.

23 48. A system as defined in claim 1 wherein said transmitter and  
24 receiver communicate via a wireless RF link.

25 49. A system as defined in claim 1 wherein said transmitter and

1 receiver communicate via an IR link.

2 50. A system for displaying programming to a user, the system  
3 comprising:

4 a printed matter having at least one machine  
5 recognizable feature;

6 a feature recognition unit having associated therewith  
7 a means for recognizing said feature and a  
8 transmitter for transmitting a coded signal in  
9 response to the recognition of said feature;

10 an intelligent controller having associated therewith a  
11 receiver for receiving said coded signal and means  
12 for accessing programming material; and  
13 a display unit for presenting said programming  
14 material;

15 wherein said recognition unit, in response to the  
16 recognition of said feature, causes said  
17 intelligent controller to access said programming  
18 material and said display unit to execute or  
19 display said programming material.

20 51. A system as defined in claim 50 wherein said intelligent  
21 controller includes a microprocessor.

22 52. A system as defined in claim 50 wherein said intelligent  
23 controller has associated therewith a memory means for  
24 storing programming material.

25 53. A system as defined in claim 52 wherein said memory means

1 comprises a magnetic disk.

2 54. A system as defined in claim 52 wherein said memory means  
3 comprises a PCMCIA card.

4 55. A system as defined in claim 52 wherein said memory means  
5 comprises a flash RAM.

6 56. A system as defined in claim 52 wherein said memory means  
7 comprises a cache.

8 57. A system as defined in claim 52 wherein said memory means  
9 comprises a CD-ROM.

10 58. A system as defined in claim 52 wherein said memory means is  
11 selected from the group consisting of: a ROM; a WORM disk; a  
12 floppy disk; a multi-layer optical disk; a magneto-optical  
13 disk; an IC card; a magnetic bubble memory; a sequential  
14 access memory; a magnetic tape; a magnetic drum; a magneto-  
15 optical drum; a static RAM; and a dynamic RAM.

16 59. A system as defined in claim 50 wherein said intelligent  
17 controller includes a removable memory means.

18 60. A system as defined in claim 59 wherein said printed matter  
19 and said removable memory means are supplied to, or  
20 purchased by, the user as a set.

21 61. A system as defined in claim 50 wherein said means for  
22 accessing programming material operates via a data link.

23 62. A system as defined in claim 61 wherein said data link  
24 comprises a telephone line.

25 63. A system as defined in claim 61 wherein said data link

1 comprises a computer network.

2 64. A system as defined in claim 61 wherein said data link  
3 comprises an ISDN network.

4 65. A system as defined in claim 61 wherein said data link  
5 comprises an ethernet network.

6 66. A system as defined in claim 61 wherein said data link  
7 comprises a CATV line.

8 67. A system as defined in claim 50 wherein said intelligent  
9 controller has associated therewith a buffer for temporarily  
10 storing the programming material.

11 68. A system as defined in claim 50 wherein said intelligent  
12 controller includes means for decompressing compressed  
13 programming material.

14 69. A system as defined in claim 50 wherein said display unit  
15 comprises a video display.

16 70. A system as defined in claim 50 wherein said display unit  
17 comprises an audio transducer.

18 71. A system as defined in claim 50 wherein said display unit  
19 comprises a flat panel display.

20 72. A system as defined in claim 71 wherein said flat panel  
21 display is embedded within said printed matter.

22 73. A system as defined in claim 50 wherein said display unit  
23 has associated therewith a buffer for temporarily storing  
24 programming material.

25 74. A system as defined in claim 50 wherein said display unit



1 has associated therewith means for decompressing compressed  
2 programming material.

3 75. A system as defined in claim 50 wherein said display unit  
4 comprises a CATV converter, or wireless cable converter, and  
5 a television set coupled thereto.

6 76. A system as defined in claim 50 wherein said display unit  
7 comprises a personal computer.

8 77. A system as defined in claim 76 wherein said personal  
9 computer includes a CD-ROM for storing programming material.

10 78. A system as defined in claim 76 wherein said personal  
11 computer includes means for decompressing compressed  
12 programming material.

13 79. A system as defined in claim 50 wherein said intelligent  
14 controller and said display unit each comprise portions of a  
15 personal computer.

16 80. A system as defined in claim 50 wherein said programming  
17 material includes entertainment programming.

18 81. A system as defined in claim 50 wherein said programming  
19 material includes educational programming.

20 82. A system as defined in claim 50 wherein said programming  
21 material supplements information contained in said printed  
22 matter.

23 83. A system as defined in claim 50 wherein said programming  
24 material includes commercial programming.

25 84. A system as defined in claim 50 wherein said programming

1 material includes promotional programming.

2 85. A system as defined in claim 50 wherein said programming  
3 material includes informational programming.

4 86. A system as defined in claim 50 wherein said transmitter and  
5 receiver communicate via an energy pathway.

6 87. A system as defined in claim 86 wherein said energy pathway  
7 comprises a conductive cable.

8 88. A system as defined in claim 86 wherein said energy pathway  
9 comprises an optical cable.

10 89. A system as defined in claim 86 wherein said energy pathway  
11 comprises a capacitively coupled link.

12 90. A system as defined in claim 50 wherein said transmitter and  
13 receiver communicate via a wireless RF link.

14 91. A system as defined in claim 50 wherein said transmitter and  
15 receiver communicate via an IR link.

16 92. A system as defined in claim 50 wherein said feature  
17 comprises a bar code.

18 93. A system as defined in claim 50 wherein said feature  
19 comprises an invisible bar code.

20 94. A system as defined in claim 50 comprises wherein said  
21 feature comprises a magnetic code.

22 95. A system as defined in claim 50 wherein said feature  
23 comprises printed indicia.

24 96. A system as defined in claim 50 wherein said recognition  
25 unit comprises a hand-held unit.

1 97. A system as defined in claim 96 wherein said hand-held  
2 recognition unit includes a CCD camera.

3 98. A system as defined in claim 96 wherein said hand-held  
4 recognition unit includes a bar code reader.

5 99. A system as defined in claim 96 wherein said hand-held  
6 recognition unit comprises a magnetic detector.

7 100. A system as defined in claim 96 wherein said hand-held  
8 recognition unit comprises a scanner/mouse.

9 101. A system for delivering electronic programming to a user,  
10 the system comprising:

11 a printed matter having associated therewith at least  
12 one sensor, a controller responsive to an  
13 actuation of said sensor, and a transmitter  
14 responsive to said controller for transmitting a  
15 coded signal; and

16 a display unit having associated therewith a receiver  
17 for receiving said coded signal, means for  
18 accessing programming material in response  
19 thereto, and means for displaying or executing  
20 said programming material; and

21 wherein said user actuates said sensor to cause said  
22 programming material to be accessed and displayed  
23 or executed.

24 102. A system as defined in claim 101 wherein said controller  
25 includes a microprocessor.

1 103. A system as defined in claim 101 wherein said display unit  
2 further has associated therewith a memory means for storing  
3 programming material.

4 104. A system as defined in claim 103 wherein said memory means  
5 comprises a magnetic disk.

6 105. A system as defined in claim 103 wherein said memory means  
7 comprises a PCMCIA card.

8 106. A system as defined in claim 103 wherein said memory means  
9 comprises a flash RAM.

10 107. A system as defined in claim 103 wherein said memory means  
11 comprises a cache.

12 108. A system as defined in claim 103 wherein said memory means  
13 comprises a CD-ROM.

14 109. A system as defined in claim 101 wherein said memory means  
15 is selected from the group consisting of: a ROM; a WORM  
16 disk; a floppy disk; a multi-layer optical disk; a magneto-  
17 optical disk; an IC card; a magnetic bubble memory; a  
18 sequential access memory; a magnetic tape; a magnetic drum;  
19 a magneto-optical drum; a static RAM; and a dynamic RAM.

20 110. A system as defined in claim 101 wherein said further has  
21 associated therewith a removable memory means.

22 111. A system as defined in claim 110 wherein said printed matter  
23 and said removable memory means are supplied to, or  
24 purchased by, the user as a set.

25 112. A system as defined in claim 101 wherein said means for

1     accessing programming material operates via a data link.

2     113. A system as defined in claim 112 wherein said data link  
3         comprises a telephone line.

4     114. A system as defined in claim 112 wherein said data link  
5         comprises a computer network.

6     115. A system as defined in claim 112 wherein said data link  
7         comprises an ISDN network.

8     116. A system as defined in claim 112 wherein said data link  
9         comprises an ethernet network.

10    117. A system as defined in claim 112 wherein said data link  
11         comprises a CATV line.

12    118. A system as defined in claim 101 wherein said controller has  
13         associated therewith a power-down or slow-down circuit for  
14         reducing power consumption in said controller.

15    119. A system as defined in claim 101 wherein said controller has  
16         associated therewith a solar cell for powering said  
17         controller..

18    120. A system as defined in claim 101 wherein said display unit  
19         comprises a video display.

20    121. A system as defined in claim 101 wherein said display unit  
21         comprises an audio transducer.

22    122. A system as defined in claim 101 wherein said display unit  
23         comprises a flat panel display.

24    123. A system as defined in claim 122 wherein said flat panel  
25         display is embedded within said printed matter.

1 124. A system as defined in claim 101 wherein said display unit  
2 has associated therewith a buffer for temporarily storing  
3 programming material.

4 125. A system as defined in claim 101 wherein said display unit  
5 has associated therewith means for decompressing compressed  
6 programming material.

7 126. A system as defined in claim 101 wherein said display unit  
8 comprises a CATV converter, or wireless cable converter, and  
9 a television set coupled thereto.

10 127. A system as defined in claim 101 wherein said display unit  
11 comprises a personal computer.

12 128. A system as defined in claim 127 wherein said personal  
13 computer includes a CD-ROM for storing programming material.

14 129. A system as defined in claim 127 wherein said personal  
15 computer includes means for decompressing compressed  
16 programming material.

17 130. A system as defined in claim 101 wherein said controller and  
18 said display unit each comprise portions of a personal  
19 computer.

20 131. A system as defined in claim 101 wherein said programming  
21 material includes entertainment programming.

22 132. A system as defined in claim 101 wherein said programming  
23 material includes educational programming.

24 133. A system as defined in claim 101 wherein said programming  
25 material supplements information contained in said printed

1 matter.

2 134. A system as defined in claim 101 wherein said programming  
3 material includes commercial programming.

4 135. A system as defined in claim 101 wherein said programming  
5 material includes promotional programming.

6 136. A system as defined in claim 101 wherein said programming  
7 material includes informational programming.

8 137. A system as defined in claim 101 wherein said transmitter  
9 and receiver communicate via an energy pathway.

10 138. A system as defined in claim 137 wherein said energy pathway  
11 comprises a conductive cable.

12 139. A system as defined in claim 137 wherein said energy pathway  
13 comprises an optical cable.

14 140. A system as defined in claim 137 wherein said energy pathway  
15 comprises a capacitively coupled link.

16 141. A system as defined in claim 101 wherein said transmitter  
17 and receiver communicate via a wireless RF link.

18 142. A system as defined in claim 101 wherein said transmitter  
19 and receiver communicate via an IR link.

20 143. A method of providing, accessing or utilizing electronic  
21 media services, the method comprising the steps of:

22 providing a printed matter having at least one sensor  
23 associated therewith;

24 providing or programming an intelligent controller to,

25 in response to an actuation of said sensor,

perform a pre-programmed command; and  
executing said pre-programmed command to access or  
control an electronic media.

144. A method of providing electronic programming material, the  
method comprising the steps of:

providing a printed matter to a potential customer;  
pre-programming an intelligent controller to access or  
control the transmission of electronic programming  
material in response to an event wherein the  
customer interacts with the printed matter in a  
particular manner; and  
displaying or executing said programming material in  
response to the intelligent controller.

145. A method as defined in claim 144 wherein said printed matter  
comprises a low-cost, throw away publication.

146. A method as defined in claim 144 wherein said customer  
utilizes a feature recognition unit to interact with said  
printed matter.

147. A method of providing or accessing shop-at-home services,  
the method including the steps of:

incorporating within a printed catalogue at least one  
sensor or machine-recognizable feature;  
programming a controller to execute a pre-programmed  
command in response to an event wherein a customer  
interacts with said sensor or feature; and



1 responding to the execution of said pre-programmed  
2 command.

3 148. A method as defined in claim 147 wherein responding  
4 comprises presenting or delivering commercial programming to  
5 the customer.

6 149. A method as defined in claim 147 wherein responding  
7 comprises presenting or delivering promotional programming  
8 to the customer.

9 150. A method as defined in claim 147 wherein responding  
10 comprises contacting the customer by telephone.

11 151. A method as defined in claim 147 wherein responding  
12 comprises providing an electronic menu to the customer.

13 152. A method as defined in claim 151, further comprising the  
14 step of responding to the customer's menu selection(s).

15 153. An improved method of instruction, said method including the  
16 steps of:

17 providing a printed textbook having at least one sensor  
18 or machine-recognizable feature associated  
19 therewith;

20 providing a means, distinct from said textbook, for  
21 executing a pre-programmed command in response to  
22 an event wherein a reader of the textbook  
23 interacts with said sensor or feature; and  
24 responding to the execution of said command.

25 154. An improved method of instruction as defined in claim 153

- 1 wherein responding comprises: causing or controlling the  
2 delivery or presentation of multimedia material or other  
3 information related to that in the textbook to the reader.
- 4 155. An improved method of instruction as defined in claim 153  
5 wherein responding comprises: forming a communication link  
6 between the reader and a tutor or consultant.
- 7 156. A low cost, throw-away printed matter useful for accessing  
8 electronic media services, said printed matter including:  
9 at least one sensor; and  
10 means, responsive to an actuation of said sensor, for  
11 transmitting a coded signal indicative of said  
12 sensor.
- 13 157. A feature recognition unit useful, in combination with a  
14 printed matter, for accessing electronic media services,  
15 said recognition unit comprising:  
16 means for recognizing features on said printed matter;  
17 and  
18 means, responsive to the recognition of a feature, for  
19 transmitting a coded signal indicative of said  
20 recognized feature.
- 21 158. A feature recognition unit as defined in claim 157 wherein  
22 said means for recognizing reads bar codes.
- 23 159. A feature recognition unit as defined in claim 157 wherein  
24 said means for recognizing reads printed indicia.
- 25 160. A feature recognition unit as defined in claim 157 wherein

1     said means for recognizing reads magnetic codes.

2     161. A feature recognition unit as defined in claim 157 wherein  
3         said means for recognizing comprises a CCD camera.

4     162. A feature recognition unit as defined in claim 157 wherein  
5         said means for recognizing comprises a bar code reader.

6     163. A feature recognition unit as defined in claim 157, further  
7         including a microprocessor.

8     164. A system for delivering an electronic advertisement to a  
9         user, the system comprising:

10         a printed advertisement having associated therewith at  
11             least one sensor or machine-recognizable feature,  
12             a controller, responsive to an actuation of said  
13             sensor or a recognition of said machine-  
14             recognizable feature, and a transmitter,  
15             responsive to said controller, for transmitting a  
16             coded signal; and

17         a display unit including a receiver for receiving said  
18             coded signal and means for providing said user  
19             with said electronic advertisement related to said  
20             printed advertisement.

21     165. A system for delivering information services to a user, the  
22         system comprising:

23         a printed reference having associated therewith at  
24             least one sensor or machine-recognizable feature,  
25             a controller, responsive to an actuation of said

1 sensor or a recognition of said machine-  
2 recognizable feature, and a transmitter,  
3 responsive to said controller, for transmitting a  
4 coded signal; and

5 a display unit including a receiver for receiving said  
6 coded signal and means for providing said user  
7 with said information services related to said  
8 printed reference.

9 166. A system for delivering information services as defined in  
10 claim 165 wherein said display unit is contained within a  
11 personal communicator device.

12 167. A system for delivering information services as defined in  
13 claim 165 wherein said display unit is contained within a  
14 remote pager device.